



Public Health Research (PHR) Programme Logic Model

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The Public Health Research (PHR) Programme is part of the [National Institute for Health and Care Research \(NIHR\)](#). As such, it aims to contribute to the NIHR's mission of improving the health and wealth of the nation by funding research that evaluates practical public health interventions and generates evidence that supports public health decision-making. It supports this decision-making by informing the delivery of non-NHS interventions through new knowledge on its benefits, costs, acceptability and wider impacts, and thus leads to sustainable population level change by improving the health of the public and reducing inequalities in health. More information can be found on the [NIHR website](#).

A logic model is a visual way of showing how an activity, programme or intervention is expected to work and bring about the benefits and changes it intends to achieve. By summarising the core elements, a logic model can be used to support programme planning, implementation and evaluation. NIHR logic models represent – in a linear flow diagram – the key activities, outputs, outcomes and impacts of each funding programme as a series of logical steps.

Inputs

The first step outlined in the logic model focuses on 'inputs', i.e., the resources needed to undertake programme activities. The inputs for the PHR Programme are:

- NIHR funding
- funding from the devolved nations
- NIHR coordinating centre resources
- stakeholder time
- the existing UK research infrastructure in terms of expertise, capacity and funding

Activities

Inputs feed into activities, the second stage of the logic model. Activities are the actions that the NIHR PHR team and the funded research community undertake to help achieve the programme's aims and objectives. Together, inputs and activities represent NIHR's planned work.

The initial focus for the programme is identifying key research questions and issues in public health through horizon scanning, review and synthesis of existing research, and collaboration with key stakeholders.

The NIHR PHR team then develops targeted [funding opportunities](#) to stimulate applications in areas of strategic priority. PHR calls often encompass broad topics rather than specific research questions, to allow for applications that use a range of different approaches for understanding and addressing key issues. The programme also invites researcher-led proposals, which enables research into investigator-driven areas. All submitted project proposals are reviewed by harnessing detailed feedback from experts, including academics and other professional experts (for example, public health professionals) as well as patients, carers, service users, specific communities and/or members of the general public. A panel recommends high-quality research projects for funding according to set criteria. Such projects typically include a synthesis of prior evidence, demonstrate how the proposal sits within the existing evidence base and have a clear plan for patient and public involvement, which is a requirement of NIHR-funded research.

Funded projects are then actively monitored by the NIHR PHR team that provides advice and expertise regarding, for example, risks, appropriate methodologies, and identification, engagement and management of key stakeholders.

NIHR actively supports transparent research management and publication of knowledge, with project information and results being openly accessible via the NIHR [website](#) and the peer-reviewed [NIHR PHR journal](#), hosted by the [NIHR Journals Library](#). Support to funded projects includes guidance on the dissemination of research findings to academic and other key audiences. This ensures that funded projects fulfil contractual obligations of peer-reviewed publication and knowledge mobilisation to support improvements in policy and practice. As part of this work, the PHR team identifies projects with high potential for impact and works with them as part of the programme's enhanced dissemination workstream. Ultimately, these efforts aim to improve the communication of rigorous research, with a focus on bridging the gap between rigorous research and practical delivery of policy and practice.

The programme's funding process ensures that new, innovative public health interventions are independently and rigorously tested for efficacy.

PHR-funded projects and schemes also build research capacity within local authorities and the research community, by bringing academic teams and local decision-makers together to work in partnership on research projects that include implementation and evaluation of new interventions. For example, [Health Determinants Research Collaborations](#) bring together a number of local partners including a higher education institution to tackle health inequalities, while [Public Health Intervention Responsive Studies Teams \(PHIRST\)](#) link academic teams with local authorities to evaluate work that is already happening in local government across the UK. The dedicated funding and partnerships with academia enable local governments to be research active, while the collaborative work enables both parties to learn from each other. PHR-funded projects also allow those involved to acquire skills and experience in this area. This includes researchers being able to address methodological concerns around robust evaluation in complex and open settings, the practical challenges of conducting patient and public involvement for population level research, and issues with data completeness and access.

Outputs

The next step in the logic model focuses on the 'outputs' that result directly from the activities undertaken. For the PHR Programme, these include:

- academic outputs such as peer-reviewed publications

- communications tailored to key audiences such as themed syntheses on key topics that integrate findings from a range of projects and are relevant to key decision-makers and stakeholders across public policy
- evidence of effective and cost-effective interventions in the form of study data

Cross-cutting activities

Some activities that enable the intended change cut across several steps of the logic model:

- stakeholder engagement: the programme cooperates closely with key public health stakeholders such as local governments and other decision-makers across public health and policy, researchers and service users across all stages of the research life cycle
- co-production of research: funded projects are required to involve and engage with local authorities, patients and the public throughout the research process
- targeted knowledge exchange and dissemination takes place across the project life cycle
- increasing pool of knowledge: activities, outputs and outcomes of the funded research contribute to an increasing pool of knowledge which feeds into both the identification of new questions and methods for answering those questions. In particular, bringing together the experience and tacit knowledge of professionals with academic rigour and the research skills of the public health academic community is expected to help increase the knowledge base for public health interventions

Outcomes

Outcomes are the changes that the programme expects to occur as a result of its activities. Short-term outcomes are those that take place in less than 5 years, and medium-term outcomes in 5-10 years.

Scientific advancements and increased knowledge base

In the short term, findings from PHR-funded research projects increase the evidence base for public health interventions by improving knowledge regarding such interventions and the most appropriate methods for evaluating them.

In the medium term, methodological advancements, improved knowledge and increased investments in public health research are expected to amplify interest in this field by working as a signal to the research community and other funders that it is important. As one of the largest funders of public health research in the UK, NIHR is assumed to be highly influential regarding the nature and pace at which research in the field is undertaken. Projects initially funded by the PHR Programme may therefore also go on to receive further support from other funders or NIHR programmes.

Taken together, this is expected to lead to further scientific advancements and contribute to the UK's world-leading reputation in delivering public health research.

Accelerated uptake of research

It is expected that the knowledge built and communicated by both individual PHR-funded projects and the wider programme will result in the accelerated uptake of public health

research. This knowledge enables local authorities to access new information and practical, well-evidenced examples of effective public health interventions that can support decision-making. Providing decision-makers on public health issues with such examples is then assumed to result in them making evidence-informed decisions.

Enhanced research capacity

Through its activities and outputs, the PHR Programme supports the enhancement of research capacity in four ways:

1. Leadership and technical skills of public health researchers are expected to increase as the delivery of research projects in a local area allows them to acquire tacit knowledge about how to work within local structures to deliver new interventions and evaluative research.
2. The capacity and capability of local authorities and communities to engage with and undertake public health research is likely to increase as a direct result of a) their practical involvement in academic research and evaluation work, and b) knowledge exchange with their academic partners. Involvement in research and knowledge exchange with academic partners is also expected to increase local authorities' and communities' understanding of the value research can bring to decisions that affect public health.
3. Researchers and key stakeholders from local authorities working together to research and evaluate new public health interventions is also assumed to lead to increased collaboration between these groups in the medium-term.
4. More demand for evidence across public policy is expected to result from local authorities' increased ability to access, understand and use public health research as a basis for decision-making.

By allowing for mutual learning and adjustments of timelines, these four ways of enhancing research capacity are expected to bridge the existing gap between academic research and practicalities of local government. Bridging this gap will in turn contribute to building research culture within local authorities and change the ways in which public health research and its results are delivered.

Impacts

Impacts, or long-term outcomes, are the anticipated broader (direct and indirect) changes or benefits for organisations, communities, systems and wider society that are expected to result from the programme's activities and portfolio of funded research. These are expected to become apparent in approximately 10-25 years.

For the PHR Programme, the overarching long-term benefit is the adoption of evidence-based health and care policies and practice. These are expected to include the improvement of

- policies
- public health practices
- investment decisions

In turn, these improvements contribute to reduced health inequalities; improved population health; and thus, ultimately, to the health and wealth of the nation.

Contributions and acknowledgements

The NIHR supports the principles of open research, including full and appropriate recognition of the many varied contributions to the creation of knowledge. To support this, we use the [CRediT taxonomy](#) to accurately reflect how each team member has brought their knowledge and skills to the development and delivery of this work. Those that have contributed to this work are listed alphabetically.

- Peymane Adab: Conceptualization, Writing – review & editing
- Brian Ferguson: Conceptualization, Writing – review & editing
- Claire Kidgell: Conceptualization, Writing – review & editing
- Adam Lockwood: Conceptualization, Project administration, Funding acquisition, Methodology, Supervision, Writing – review & editing
- Sarah Thomas: Conceptualization, Funding acquisition, Methodology, Supervision
- Helen Walters: Conceptualization, Writing – review & editing
- Insa Wemheuer: Project administration, Visualization, Writing – original draft, Writing – review & editing

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Competing interests

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- [Peymane Adab](#): Chair of the NIHR PHR Programme Funding Committee
- [Brian Ferguson](#): Director of the NIHR PHR Programme and Chair of the PHR Prioritisation Committee
- Claire Kidgell: Assistant Director Identification & Prioritisation, NIHR, Head of the NIHR PHR Programme
- Adam Lockwood: Senior Research Manager, NIHR
- Sarah Thomas: Assistant Director Insight and Evaluation, NIHR
- Helen Walters: Consultant in Public Health / Consultant Advisor, NIHR
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